

IN THE CLAIMS

1. (Previously Presented) A system comprising:
an interface device including a wireless data receiver and a decoder the wireless data receiver being capable of wirelessly receiving a modulated video signal from a broadcast source, the decoder electronically coupled to the wireless data receiver to decode and reproduce auxiliary data from the modulated video signal; and
a hand-held device including a slot, the slot capable of coupling the interface device with the hand-held device to receive and process the auxiliary data from the interface device and provide a benefit in response to receipt of the auxiliary data.
2. (Previously Presented) The system of claim 1, wherein the hand-held device includes storage capable of storing the auxiliary data.
- 3-4. (Cancelled)
5. (Previously Presented) The system of claim 1, wherein the hand-held device comprises includes a network access module;
wherein the benefit is redeemable or provided through the use of the network access module.
- 6-29. (Cancelled)
30. (Previously Presented) The system of claim 1, wherein the hand-held device is a smart card, a mobile phone, a personal digital assistant (PDA), a gaming device, a digital music device, or a flash memory card.
- 31-38. (Cancelled)
39. (Previously Presented) The system of claim 1, wherein the decoder comprises:

an analog pre-filter to prepare the modulated video signal for digitization;

a vertical detect/signal strength module operatively associated with the analog pre-filter to generate a vertical synchronization signal and lock to the vertical synchronization signal; and

an auxiliary data detector operatively associated with the analog pre-filter to measure strength of the modulated video signal after removal of an underlying portion of the modulate video signal.

40. (Previously Presented) The system of claim 39, wherein the analog pre-filter comprises:

a current voltage converter to convert the modulated video signal into a current;

an automatic gain control electrically connected to the current voltage converter to measure signal strength and alter gain of the modulated video signal;

a low pass filter electrically connected to the automatic gain control to remove high frequency noise from the modulated video signal; and

a high pass filter electrically connected to the low pass filter to remove low frequency noise from the modulated video signal.

41. (Cancelled)

42. (Previously Presented) The system of claim 39, wherein the vertical detect/signal strength module comprises:

a signal strength detector to polarize, transition, invert and integrate the modulated video signal; and

an analog vertical sync to generate a vertical synchronization signal and lock to the vertical synchronization signal.

43. (Cancelled)

44. (Previously Presented) The system of claim 39, wherein the auxiliary data detector comprises:

a horizontal notch filter to remove a portion of the modulated video signal at a horizontal line scanning rate,

a low pass filter with cutoff electrically coupled to the horizontal notch filter to filter a remaining portion of the modulated video signal;

a band pass filter electrically coupled to the low pass filter with cutoff to filter the remaining portion;

a signal rectifier electrically coupled to the band pass filter to integrate the remaining portion; and

a signal energy integrator electrically coupled to the signal rectifier to measure the strength of the remaining portion.

45-49. (Cancelled)

50. (Previously Presented) A method comprising:
splitting a first portion and a second portion of a frame into a plurality of segments; and
modulating the video signal with auxiliary data by altering a pixel value of a plurality of pixels of at least one of a selected segment of the first portion or the second portion for the plurality of segments, the modulated video signal including a plurality of data bits encoded within the frame.

51-55. (Cancelled)

56. (Previously Presented) A method comprising:
obtaining a frame of a video signal from a display device; and
determining whether auxiliary data is present in the frame by performing a field comparison on a plurality of segments of a first field and a plurality of corresponding segments of a second field for the frame.

57. (Previously Presented) The method of claim 56, wherein wherein the field comparison includes:

subtracting intensity of the plurality of corresponding segments of the second field from the plurality of segments of the first field,

subtracting the intensity of the plurality of segments of the first field from the plurality of corresponding segments of the second field, or
combinations thereof.

58. (Currently Amended) The method of claim 57, further comprising:

decoding a logic one as the auxiliary data when a segment of the first field is encoded and a corresponding segment of the second field is not encoded; and

decoding a logic zero as the auxiliary data when the segment of the first field is not encoded and the corresponding ~~corresponding~~ segment of the second field is encoded.

59. (Previously Presented) The method of claim 57, further comprising:

decoding a logic one as the auxiliary data when a corresponding segment of the second field is encoded and a segment of the first field is not encoded; and

decoding a logic zero as the auxiliary data when the corresponding segment of the second field is not encoded and the segment of the first field is encoded.

60-71. (Cancelled)

72. (Previously Presented) The method of claim 57, further comprising:

providing a benefit to a user based on the determining of the auxiliary data.

73. (Previously Presented) The method of claim 72, wherein the benefit is textual information, a prize, a coupon, a game, a special access privilege, or combinations thereof.

74-80. (Cancelled)

81. (Previously Presented) The method of claim 57, further comprising:

seeking and synchronizing to a vertical retrace period of the video signal;

wherein the determining of whether the auxiliary data is present is in accordance with the synchronizing to the vertical retrace period.

82. (Previously Presented) The method of claim 81, wherein seeking and synchronizing to the vertical retrace period of the video signal comprises:

seeking a first display section of a picture presented on a display device is black;

waiting a sufficient amount of time for a vertical refresh of the picture;

determining if a second display section of the picture presented on the display device is black;

looking beyond the first display section when the picture presented on the display device for the second display section is not black; and

locking on a vertical retrace period when the second display section is black.

83. (Previously Presented) The method of claim 82, further comprising releasing the lock on the vertical retrace period after a few seconds.

84-86. (Cancelled)

87. (Previously Presented) The system of claim 1, wherein the network access module is a transceiver.

88. (Previously Presented) The system of claim 1, wherein the wireless data receiver is an optical detector.

89. (Cancelled)

90. (Previously Presented) The system of claim 1, wherein the slot is a secure digital (SD) slot.

91. (Previously Presented) The system of claim 1, wherein the auxiliary data is

encoded within the modulated video signal in a substantially invisible way.

92. (Previously Presented) The method of claim 50, wherein the first portion is a first field of the frame and the second portion is a second field of the frame.

93. (Previously Presented) The method of claim 50, wherein the plurality of segments is split into equal sized segments.

94. (Previously Presented) The method of claim 50, wherein the pixel value is intensity.